## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

## (19) World Intellectual Property **Organization**

International Bureau





(43) International Publication Date 13 January 2005 (13.01.2005)

**PCT** 

(10) International Publication Number WO 2005/003508 A1

(51) International Patent Classification<sup>7</sup>: 21/10

E21B 34/10,

(21) International Application Number:

PCT/GB2004/002806

(22) International Filing Date:

30 June 2004 (30.06.2004)

(25) Filing Language:

English

(26) Publication Language:

**English** 

(30) Priority Data: 0315340.0

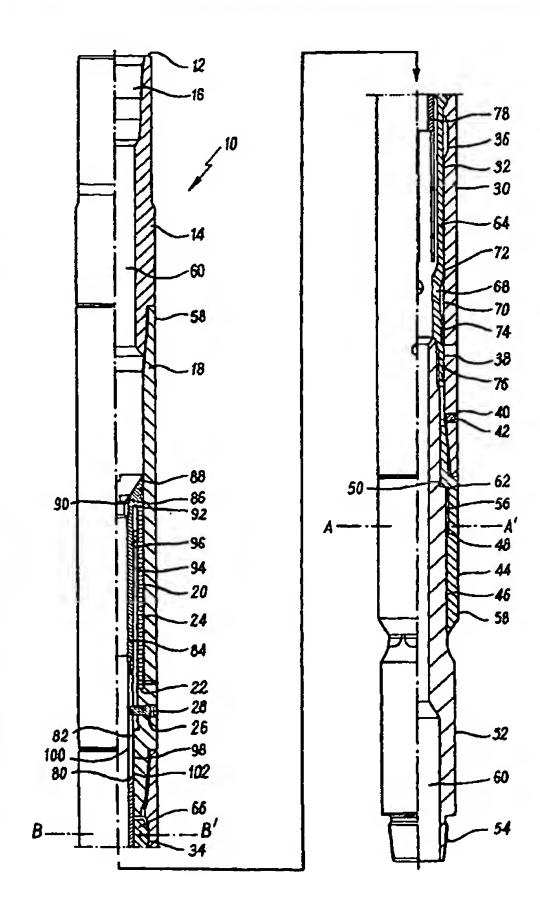
1 July 2003 (01.07.2003) GB

(71) Applicant (for all designated States except US): SPE-CIALISED PETROLEUM SERVICES **GROUP** LIMITED [GB/GB]; Arnhall Business Park, Westhill, Aberdeen AB32 6UF (GB).

- (72) Inventor; and
- (75) Inventor/Applicant (for US only): TELFER, George [GB/GB]; 19 Grosvenor Place, Aberdeen AB25 2RE (GB).
- (74) Agent: KENNEDYS PATENT AGENCY LIMITED; Floor 5, Queens House, 29 St. Vincent Place, Glasgow G1 2DT (GB).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: CIRCULATION TOOL



(57) Abstract: A downhole tool (10) for circulating fluid in a well bore. The tool includes an axial inlet and outlet with radial second outlets. A sleeve (64) moves over the second outlets (38) to control circulation of fluid. The sleeve can be selectively locked in an opened or closed configuration, while the tool is in tension or compression. Variation of fluid pressure in the work string and stroking the tool move the sleeve between the operating positions. Cyclic operation of the tool is also described.

A1 WO 2005/003508

## WO 2005/003508 A1



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.